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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,474	10/15/2003	Mihail S. Moisin	MOIS-014AUS	6644

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DALY, CROWLEY, MOFFORD & DURKEE, LLP
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354A TURNPIKE STREET
CANTON, MA 02021-2714

EXAMINER

VU, DAVID HUNG

ART UNIT PAPER NUMBER

2828

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/686,474

Applicant(s)

MOISIN

Examiner

David Vu

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(Signature)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-24 and 33-37 is/are allowed.
- 6) ☒ Claim(s) 1-19, 25, 26 and 29-32 is/are rejected.
- 7) ☒ Claim(s) 27-28 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/2/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

2. Claim 8 is objected to because of the following informalities: line 3, should "such" properly be ---such that---?
3. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, the recitation: "...wherein the first power control circuit biases the first switching element to a non-conductive state for a portion of a half cycle of an AC signal for energizing the load..." renders the claim confusing because when the switching element is non-conductive then how the load can be energized?

Claims 15 and 18, the term "conventional black/white wire" renders the claim indefinite since there are many conventional black/white wires in the art; thus, it is unclear what specific wire is being referred to.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-2, 7, 14-15, 17-18, 25-26, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Watrous, US Pat No 4,030,013.

Watrous discloses the claimed invention including first and second switching elements QA,QB coupled across first and second rails for energizing a load 13,12'; and a first power control circuit 20 coupled to the first switching element, wherein the first power control circuit biases the first switching element to a non-conductive state for a portion of a half cycle of an AC signal when a voltage across the first and second rails is greater than a predetermined threshold, see, for example, figures 2-3, column 2, lines 35+, column 3, lines 15-59, column 5, lines 56+, column 6, lines 1-14.

Regarding claim 2, the duration of the first switching element being in the non-

conductive state is inherently centered about the peak voltage of the AC half cycle.

Regarding claim 7, column 3, lines 30-44, discloses the predetermined threshold is below an expected peak of the AC half cycle.

Regarding claims 14-15 and 17-18, since the claim language is broad, voltage levels are referenced to the rails or ground; the single rail inherently corresponds to a black wire terminal and a second white wire terminal is relatively inaccessible; white and black input terminals are for receiving an AC input signal, the white terminal is adapted for coupling to load 12,12'.

The claimed method (claims 25-26 and 29) is inherently in the Watrous reference.

8. Claims 25-26 and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Ilic et al (hereinafter Ilic), US Pat No 6,473,284.

Ilic inherently discloses a method of managing power in a circuit comprising selecting a voltage threshold at which an AC signal will be clamped such that a switching element 26 for energizing a load is biased to a non-conductive state during a time that the AC signal is above the voltage threshold (figures 1-2, column 2, lines 25, column 3, lines 1-42).

Regarding claim 26, the time of non-conduction for the switching element is inherently centered symmetrically about a peak of the AC signal.

Regarding claim 29, inherently the switching element 26 is biased to non-conductive state when a current through the switching element is greater than a

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predetermined current threshold.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3, 6, and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watrous in view of applicant's admitted prior art (figure 1, paragraph [0006]-[0007]).

Watrous as discussed from the above, essentially discloses the claimed invention but fails to explicitly disclose a potentiometer coupled across the rails. Applicant's admitted prior art (figure 1, paragraph [0006]-[0007]) discloses a potentiometer P. It would have been obvious to one having ordinary skill in the art at the time of applicant's claimed invention was made to have provided the Watrous reference with the potentiometer coupled across the rails; thus, the predetermined threshold would have been set so as to provide overvoltage protection

Regarding claim 6, obviously the predetermined threshold would have been set to be slightly above or below an expected peak of the AC half cycle; thus, overvoltage protection would have been realized.

The claimed method (claims 30-32) is inherently in the Watrous and applicant's admitted prior art combination.

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watrous.

Watrous as discussed from the above, essentially discloses the claimed invention but fails to explicitly disclose the first switching element forms part of a Darlington pair. However, switching element forming a Darlington pair is very well known in the art. It would have been obvious to one having ordinary skill in the art at the time of applicant's claimed invention was made to have employed the switching element in a Darlington arrangements; thus, high input impedance would have been achieved.

12. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watrous.

Watrous as discussed from the above, essentially discloses the claimed invention but fails to explicitly disclose diodes across the switching elements. However, diodes connected across switching elements are very well known in the art. It would have been obvious to one having ordinary skill in the art at the time of applicant's claimed invention was made to have employed diodes connected across switching elements; thus, current backflow would have been prevented.

13. Claims 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watrous in view of Campbell, US Pat No 5,867,358.

Watrous as discussed from the above, essentially discloses the claimed invention but fails to explicitly disclose a high impedance resistor for coupling to the load.

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Campbell discloses high impedance resistor 34 for coupling to the load (figure 3). It would have been obvious to one having ordinary skill in the art at the time of applicant's claimed invention was made to have provided the Watrous reference with the high impedance resistor; thus, ground fault current through the load would have been limited.

Regarding claim 19, inherently the potential difference between ground and the white terminal corresponds to current through the high impedance resistor 34.

14. Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ilic in view of applicant's admitted prior art (figure 1, paragraph [0006]-[0007]).

Ilic as discussed from the above, essentially discloses the claimed invention but fails to explicitly disclose selecting the threshold voltage using a potentiometer. Applicant's admitted prior art (figure 1, paragraph [0006]-[0007]) discloses a potentiometer P. It would have been obvious to one having ordinary skill in the art at the time of applicant's claimed invention was made to have provided the Ilic reference with the potentiometer; thus, threshold voltage would have been set to be slightly above or below an expected peak of the AC half cycle for the purpose of providing overvoltage protection.

Regarding claim 32, obviously changing the threshold voltage would lead to intensity control of a lamp.

Allowable Subject Matter

15. Claims 20-24 and 33-37 are allowed.

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16. Claims 4-5, 8-9, and 11-12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

17. Claims 27-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

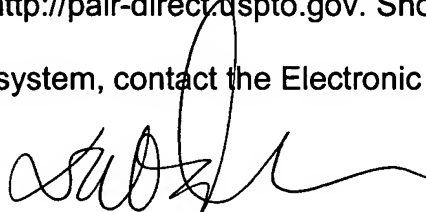
18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patent by Murakami et al is cited as showing diodes connected across switching transistors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Vu whose telephone number is (571) 272-1831. The examiner can normally be reached on M-F 8am-430pm.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'David Vu', is written over the end of the paragraph.

David Vu
Primary Examiner
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dv